I hereby certify that this consepondence is being deposited with the water States Postal Service as first class mail in an envelope addressed to:

deposited with the Utime States Postal Service first class mail in an envelope addressed to:
Mail Stop Amendment, Commissioner for Patents P.O. Box 1450

Patents, P.O. Box 1450 Alexandria, VA 22313 on:

May 10, 2004

\_\_\_\_

INFORMATION DISCLOSURE STATEMENT Patent Application

Docket No. UF-311XC1 Serial No. 10/718.842

Margaret Efron, Patent Attorney

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Art Unit

2661

Applicant(s) :

Sartaj Kumar Sahni, Haibin Lu, Kun Suk Kim

Serial No.

10/718,842

Filed

November 21, 2003

For :

Partitioning Methods for Dynamic Router Tables

Conf. No.

1937

Mail Stop Amendment Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

## INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR §§1.97 AND 1.98

Sir:

In accordance with 37 CFR §1.56, the references listed on the attached form PTO/SB/08 are being brought to the attention of the Examiner for consideration in connection with the examination of the above-identified patent application. A copy of each cited reference is enclosed.

It is respectfully requested that the references cited on the attached form PTO/SB/08 be considered in the examination of the subject application and that their consideration be made of record.

Docket No. UF-311XC1 Serial No. 10/718,842

The applicants respectfully assert that the substantive provisions of 37 CFR  $\S1.97$  and 1.98 are met by the foregoing statement.

Respectfully submitted,

Margaret H. Efron

Patent Attorney Registration No. 47,545

Phone No.: 352-375-8100 Address : 2421 N.W. 41s

2421 N.W. 41st Street, Suite A-1

Gainesville, FL 32606-6669

MHE/ue

Enclosure: Form PTO-1449

Copies of references cited



PTO/SB/08A (08-03) Approved for use through 07/31/2006, OMB 0651-0031

Approved for use through 07/31/2008. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB

OSI — CE IB

Substitute for fo	rm 1449A/PTO			Complete if Known		
			.ne	Application Number	10/718,842	
	ATION DISC			Filing Date	November 21, 2003	
STATEMENT BY APPLICANT				First Named Inventor	Sartaj Kumar Sahni	
(4	ise as many sheet	s as nec	essary)	Art Unit	2661	
				Examiner Name		
Sheet	1	of	4	Attorney Docket Number	UF-311XC1	

			U.S. PATENT DO	OCUMENTS	
Examiner Initials*	Cite No.	Document Number Number - Kind Code <sup>2</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
7J.P.P/	U1	US- 4,251,861	02-17-1981	Mago	All
/J.P.P/	U2	US- 4,833,468	05-23-1989	Larson et al.	· All
/J.P.P/	U3	US- 5,555,405	09-10-1996	Griesmer er al.	All
/J.P.P/	U4	US- 5,701,467	12-23-1997	Freeston	All
/J.P.P/	U5	US- 5,761,440	06-02-1998	De Marco et al.	All
/J.P.P/	U6	US- 5,787,430	07-28-1998	Doeringer et al.	All
/J.P.P/	U7	US- 5,909,440	06-01-1999	Ferguson et al.	All
73.P.P7	U8	US- 6,018,524	01-25-2000	Turner et al.	All
/J.P.P/	U9	US- 6,021,131	02-01-2000	Even	All
/J.P.P/	U10	US- 6,041,053	03-21-2000	Douceur et al.	All

		FOREIGN	PATENT DOCL	JMENTS		
Examiner Initials*	Cite No. 1	Foreign Patent Document  Country Code 3 - Number 4 - Kind Code <sup>6</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Peges, Columns, Lines, Where Relevant Passeges or Relevant Figures Appear	T <sup>+</sup>
	F1	-				
	F2					$\Box$
	F3					
	F4					
	F5					
	F6					
	F7					

Examiner Signature /Jay Patel/	Date Considered	03/11/2008
-----------------------------------	--------------------	------------

"EXAMINES: Initial if reference considered, whether or not classion is in conformance with MPEP 600. Dawn line through classion from in conformance and not considered, Induced copy of this form with next communication to applicant." Applicants unique classion designation number options of each ford Codes of USPTO Patient Documents as were upstood on MPEP901.04. "Sherr Office that individual office designation number of the patient documents and the communication of the year of the region of the Empireer must precede the senial number of the patient document." "Mind of document by the appropriate symbols as indicated on the year of the region of the Empireer must precede the senial number of the patient document." Afford of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. "Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR. 197 and 1.98. The information is equired to obtain or retain a benefit by the public which is to file (and by the USYTO by process) an application. Conferientially is epowered by 38 USA. 62 22 and 37 CFR. 114. This collection is estimated to Disors to compate, including pathering, preparing, and submitting the completed application from to the USPTO. The will vary depending upon the Conferiential by expension of the compate that form and/or suppessions for reducing this underst, should be sent to the information officer. U.S. Pastul and Trademark Office. P.O. Box 1450, Alexandria, VA. 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Pastens, P.O. Box 1450, Alexandria, VA. 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Pastens, P.O. Box 1450, Alexandria, VA. 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO:

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.



Sheet

PTO/SB/08A (08-03)

Approved for use through 07/31/2006. OMB 0551-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB

+

## Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

of

4

Cor	mplete if Known	1
Application Number	10/718,842	
Filing Date	November 21, 2003	
First Named Inventor	Sartaj Kumar Sahni	
Art Unit	2661	
Examiner Name		
Attorney Docket Number	UF-311XC1	7

Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
All
All
All
· · · All
al. All
, · All
. Áll
All
. All
All
al. All
I. All
֡

Examiner	/Jav Patel/	Date	03/11/2008
Signature	/oay i aicii	Considered	33////2333
Gigirataro	1	Odridiacica	

"EXAMINES: nitial if reference considered, whether or not citation is in conformance with MPEP 600. Dave line through citation from in conformance and not considered include copy of this form with next communication to applicate." Applicant's unique clottion designation number of produces of USPTO Patent Documents as www.upid.org.co. or MPEP901.04. "5 Enter Office that issued the document, expenditure of the produce of the

This collection of information is required by 37 CFR 1.07 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USFTO to process) an application. Confidentiality is governed by 38 USF 0.12 and 37 CFR 1.14. This collection is estimated to like 2 bours to complete, including garbeting, preparing, and submitting the completed application form to the USFTO. There will very depending upon the individual case. Any comments and Tendernat (ORG, PCP) 80 or 1450, Alexandriu, W. 2231-1459. DO NOT SEMP TEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO:

Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. (J.P.P/

PTO/SB/08B (08-03)

Approved for use through 07/31/2008. OMB 0651-0031 U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB

Complete if Known Substitute for form 1449B/PTO **Application Number** 10/718,842 INFORMATION DISCLOSURE Filing Date November 21, 2003 STATEMENT BY APPLICANT First Named Inventor Sartai Kumar Sahni **Group Art Unit** 2661 (use as many sheets as necessary) **Examiner Name** Sheet 3 of Attorney Docket Number | UF-311XC1

		NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No. 1	Include name of the author (in CAPITAL LETTERS), title of the article, (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, dily and/or country where published.	T²
/J.P.P/	R1	Afek, Y. et al. (Dec. 14, 1999) "Routing with a Clue" ACM SIGCOMM. pp. 203-214, (enclosed copy pages numbered 0-23).	
/J.P.P.	R2	BERG, M. (1995) "Two- and Three-dimensional Point Location in Rectangular Sub-divisions" Journal of Algorithms. Vol. 18, No. 2; pp. 256-277.	-
/J.P.F	R3	CHANDRANMENON, G. and VARGHESE, G. (1996) "Trading Packet Headers for Packet Processing" IEEE Transactions on Networking. Vol. 4, No. 2, pp. 141-152 (enclosed copy pages numbered 1-13).	
/J.P.P/	R4	CHEUNG and MCCANNE. (1999) "Optimal Routing Table Design for IP Address Lookups under Memory Constraints," IEEE INFOCOM. pp. 1437-1444.	Г
/J.P.P	R5	DEGERMARK, M. et al. "Small Forwarding Tables for Fast Routing Lookups" ACM SIGCOMM Proceedings of the ACM SIGCOMM 37 Conference on Applications, technologies, architectures, and protocols for computer communication, pp. 3-14:	
/J.P.F	/ R6	DOERINGER, W. et al. (1996) "Routing on Longest-matching Prefixes" IEEE/ACM Transactions on Networking. Vol. 4, No. 1, pp. 86-97.	Г
/J.P.P/	R7	ERGUN, F. et al. (2001) *A Dynamic Lookup Scheme for Bursty Access Patterns* IEEE INFOCOM. pp. 1-10.	
/J.P.P/	R8	GUPTA, P. and N. MCKEOWN. (2000) "Dynamic Algorithms with Worst-case Performance for Packet Classification." IFIP Networking. pp. 528-539	
/J.P.P/	R9	HARI, A. et al. (2000) "Detecting and Resolving Packet Filter Conflicts" IEEE INFOCOM. pp. 1203-1212.	
/J.P.P/	R10	LAMPSON, B. et al. (1998) **IP Lookup using Multi-way and Multicolumn Search* IEEE INFOCOM Transactions on Networking. Vol. 7, No. 3, pp.324-334.	
/J.P.P/	R11	MACIAN, C. and R. FINTHAMMER. (2001) "An Evaluation to the Key Design Criteria to Achieve High Update Rates in Packet Classifiers" <i>IEEE Natwork</i> . Now/Dec. pp. 24-29 (enclosed copy pages numbered 1-10).	
/J.P.P/	R12	MCAULEY, A and P. FRANCIS.(1993) "Fast Routing Table Lookups Using CAMs" IEEE INFOCOM. Vol. 3 Mar./Apr., pp. 1382-1391.	
/J.P.P/		MCCREIGHT, E. (1985). "Priority Search Trees" SIAM Jr. on Computing. Vol. 14, No. 1, pp. 257-276.	

Examiner	41 60 44	Date	03/11/2008
Signature	/Jay Patel/	Considered	03/11/2000
*EVALUMED: Indial is	and the second s		

th MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. and not considered. Include copy of this form with next communication to applicant:
Applicants unjuguication designation unumber (optional). "Applicant is unjuguication designation in stratched."
This collection of information is required by 37 USF 1.98. The information is required to obtain or retain a benefit by the public which is to fife (and by the USPTO to process) an applicanto. Confidentially is governed by 35 USC. 122 and 37 CFR 1.14. The collection is extended to take 2 hours to complete, including the confidence is extended to take 2 hours to complete, including the confidence is extended to take 2 hours to complete, including the confidence is extended to take 2 hours to complete, including the confidence is extended to take 2 hours to complete, including the confidence is extended to take 2 hours to complete, including the confidence is extended to take 2 hours to complete, including the confidence is extended to take 2 hours to complete, including the confidence is extended to take 2 hours to complete, including the confidence is extended to take 2 hours to complete, including the confidence is extended to take 2 hours to complete, including the confidence is extended to take 2 hours to complete, including the confidence is extended to take 2 hours to complete, including the confidence is extended to take 2 hours to complete, including the confidence is extended to take 3 hours to complete, including the confidence is extended to take 3 hours to complete including the confidence is extended to take 3 hours to complete including the confidence is extended to take 3 hours to complete including the confidence is extended to take 3 hours to complete including the confidence is extended to take 3 hours to complete including the confidence is extended to take 3 hours to complete including the confidence is extended to take 3 hours to complete including the confidence is extended to take 3 hours to complete including the confidence is extended to take 3 hours to complete including the confidence is exten

gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chef Information Officer, U.S. Patent and Taddemark Office, P.O. Box 1449, Alexandria, V.A. 2231-1450. DO MOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

R13

. .

Approved for use through 07/31/2006. OMB 0651-0031 U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

1 1 17.

0.1.4	e for form 1449B/PTO			Complete if Known		
		601	OCUPE	Application Number	10/718,842	
INFORMATION DISCLOSURE				Filing Date	November 21, 2003	
STATEMENT BY APPLICANT			LICANI	First Named Inventor	Sartaj Kumar Sahni	
(use as many sheets as necessary)				Group Art Unit	2661	
				Examiner Name		
Sheet	4	of	4	Attorney Docket Number	UF-311XC1	

		NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No. 1	Include name of the author (in CAPITAL LETTERS), title of the article. (when appropriate), title of the item (book, magazine, journal, serial, symposlum, catalog, etc.), date, page(s), volume-issue number(s), publisher, city andior country where published. ‡	T²
/J.P.P/	R14	NEWMAN, P. et al. (Jan. 1997) "IP Switching and Gigabit Routers" IEEE Broadband Communications Magizine. Vol. 35, pp. 64-69 (enclosed copy pages numbered 1-8).	
/J.P.P/	R15	S. NILSSON and G. KARLSSON (1998) "Fast Address Look-up for Internet Routers" <i>Proceedings of IEEE Broadband Communications</i> . (enclosed copy pages numbered 9-18).	
/J.P.P/	R16	RUIZ-SANCHEZ, M. et al. (2001) "Survey and Taxonomy of IP Address Lookup Algorithms" IEEE Network, Mar./Apr., Vol. 15, No. 2, pp. 8-23.	
/J.P.P/	R17	S. SAHNI and K. KIM. *Data Structures of IP Lookup with Bursty Access Patterns*, <a href="www.cise.ufl.edu/~sahni">www.cise.ufl.edu/~sahni</a> (enclosed copy pages numbered 1-5).	
/J.P.P/	R18	S. SAHNI and K. KIM. (2001) "Efficient Construction of Fixed-Stride Multibit Tries for IP Lookup" Proceedings 8" IEEE Workshop on Future Trends of Distributed Computing Systems. pp. 178-184 (enclosed copy pages numbered 1-7).	
/J.P.P/	R19	S. SAHNI and K. KIM. (2002) "Efficient Construction of Variable-Stride Multibit Tries for IP Lookup." Proceedings IEEE Symposium on Applications and the Internet (SAINT). pp. 220-229 (enclosed copy pages numbered 1-8).	
/J.P.P/	R20	S. SAHNI and K. KIM. (2002) *O(log n) Dynamic Packet Routing." 7 <sup>th</sup> IEEE Symposium on computers and communications.	
/J.P.P/	R21	S. SAHNI and K. KiM, H. Lu. (May 2002) "Data structures for one-dimensional packet classification using most-specific-rule matching." International Symposium on Parallel Architectures, Algorithms, and Networks (ISPAN). pp. 3-14 (enclosed copy pages numbered 1-12).	
/J.P.P/	R22	K. SKLOWER. (1991) "A tree-based routing table for Berkeley Unix." Proceedings of 1991 Winter USENIX Conference. pp. 93-99 (enclosed copy pages numbered 1-4).	
/J.P.P/	R23	V. SRINIVASAN and G. VARGHESE. (1999) "Faster IP lookups using controlled prefix expansion." ACM Transactions on Computer Systems. Vol. 17, issue 1, pp. 1-40 (enclosed copy pages number 1-21).	
/J.P.P/	R24	SURI, S., G. VARGHESE, and P. WARKHEDE (2001) "Multiway range trees: Scalable IP lookup with fast updates." Proceedings of Globecom '01.	
/J.P.P/	R25	WALDVOGEL, MARCEL et al. (1997) "Scalable High Speed IP Routing Lookups." Proceedings of the ACM SIGCOMM 91 Conference on Applications, technologies, architectures, and protocols for computer communication. pages 25-36 (enclosed copy pages numbered 1-12).	
	R26		

Signature	/Jay Patel/	Considered	03/11/2008	ı
EXAMINER: Initial in	f reference considered, whether or not citation is in conformance with MPEP	609. Draw line th	rough citation if not in conformance	

\*\*EAMMENT: If the in Interestrict conscience, without or in consistency without or in consistency without or in consistency and in the consistency and in the consistency and in the consistency and in the consistency and interest and in the consistency and interest and interest

ALL BEFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. (J.P.P.)

į

. . . .